[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2013-0379; Directorate Identifier 2009-SW-26-AD]

RIN 2120-AA64

Airworthiness Directives; Bell Helicopter Textron, Inc. (Bell) Model Helicopters

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to supersede an existing revised airworthiness directive (AD) for all Bell Model 204B and certain serial-numbered Model 205A-1 helicopters with a certain tail rotor pitch control chain (chain) installed. The existing AD requires visually inspecting the chain to detect a crack in the link segments and, for affected Model 205A-1 helicopters, replacing the tail rotor chain and cable control system with a push-pull control system. Since we issued that AD, we have determined the need to apply the requirements to a newly-produced, similarly-designed chain with a different part number. Also, for the Model 204B, data shows the need to reduce the inspection interval of the chain and revise its inspection procedures because the rapid growth of a crack can lead to premature chain failure and to install a tail rotor cable and chain damper kit (damper kit) to reduce the oscillatory loading. We have also determined that installing a push-pull control system should apply to Model 205A-1 helicopters with certain serial numbers, regardless of the chain part number installed. These proposed actions are intended to

prevent failure of the chain, loss of tail rotor blade pitch control, and subsequent loss of control of the helicopter.

DATES: We must receive comments on this proposed AD by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments by any of the following methods:

- Federal eRulemaking Docket: Go to http://www.regulations.gov. Follow the online instructions for sending your comments electronically.
- Fax: 202-493-2251.
- Mail: Send comments to the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590-0001.
- Hand Delivery: Deliver to the "Mail" address between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Examining the AD Docket:

You may examine the AD docket on the Internet at http://www.regulations.gov or in person at the Docket Operations Office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the economic evaluation, any comments received, and other information. The street address for the Docket Operations Office (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

For service information identified in this proposed AD, contact Bell Helicopter Textron, Inc., P.O. Box 482, Fort Worth, TX 76101, telephone (817) 280-3391, fax (817) 280-6466, or at http://www.bellcustomer.com/files/. You may review a copy of the

referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137.

FOR FURTHER INFORMATION CONTACT: Michael Kohner, ASW-170, Aviation Safety Engineer, Rotorcraft Directorate, Rotorcraft Certification Office, 2601 Meacham Blvd., Fort Worth, Texas 76137, telephone (817) 222-5170, fax (817) 222-5783, email mike.kohner@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to participate in this rulemaking by submitting written comments, data, or views. We also invite comments relating to the economic, environmental, energy, or federalism impacts that might result from adopting the proposals in this document. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. To ensure the docket does not contain duplicate comments, commenters should send only one copy of written comments, or if comments are filed electronically, commenters should submit only one time.

We will file in the docket all comments that we receive, as well as a report summarizing each substantive public contact with FAA personnel concerning this proposed rulemaking. Before acting on this proposal, we will consider all comments we receive on or before the closing date for comments. We will consider comments filed after the comment period has closed if it is possible to do so without incurring expense or delay. We may change this proposal in light of the comments we receive.

Discussion

On June 3, 1976, we issued AD 76-12-07, Amendment 39-2640 (41 FR 23939, June 14, 1976), Docket No. 76-SW-19. That AD required repetitive inspections, at intervals not to exceed 25 hours time-in-service (TIS), for a chain, part number (P/N) 204-001-739-003, installed on Bell Model 204B and 205A-1 helicopters. This AD also required, before further flight, replacing chains with cracked or broken links or segments.

On September 12, 1979, we revised AD 76-12-07 by issuing Amendment 39-3569 (44 FR 55555, September 27, 1979). That amendment limits the applicability for the Model 205A-1 helicopter to those with a serial number (S/N) of 30001 through 30228; decreases the inspection interval of the chain from 25 hours TIS to 10 hours TIS; and requires replacing the existing chain and cable control system with a push-pull control system.

Both amendments were prompted by several chain failures occurring in flight and reports of cracked chain links on Model 205A-1 helicopters. Those actions are intended to detect cracks in the chain link segments to prevent failure of a chain and subsequent loss of directional control of the helicopter.

Actions Since Existing ADs Were Issued

Since we issued the original (June 3, 1976) and revised (September 12, 1979) versions of AD 76-12-07, we have approved a very-similarly designed chain, P/N 204-001-739-105, eligible for installation on Model 204B helicopters. Testing by the manufacturer has shown that the fatigue characteristics for the two chains are almost identical, and the requirements of AD 76-12-07 should apply to this additional part-numbered chain. Also, we have determined that this crack can grow quickly, and thus the

recurring inspection interval for the Model 204B should be reduced from 25 hours TIS to 10 hours TIS and should include procedures to slowly operate the cockpit anti-torque control pedals during the inspection. This is so that the entire surface area of the chain in contact with the control quill sprocket (sprocket), including that portion underneath the sprocket, can be inspected. Testing has also shown a reduction in the oscillatory loading of the chain when a damper kit is installed. To complement these requirements, we have determined for the Model 204B that we should revise the Airworthiness Limitations section of the maintenance manual, or the Instructions for Continued Airworthiness (ICAs), to include the 10 hours TIS recurring inspection.

We have also determined that the requirement in AD 76-12-07 for the Model 205A-1 to replace the tail rotor chain and cable control system with a push-pull control system should apply regardless of chain part number installed. This would be required before further flight to ensure that any part-numbered chain cannot be installed on a Model 205A-1 helicopter, which should already have a push-pull control system installed in accordance with the requirement in AD 76-12-07. The actions in this proposed AD are intended to prevent failure of the chain, loss of tail rotor blade pitch control, and subsequent loss of control of the helicopter.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other helicopters of these same type designs.

Related Service Information

The FAA has reviewed Bell Alert Service Bulletin (ASB) No. 204-75-4, dated December 16, 1975, for the Model 204B helicopter, which specifies to visually inspect the chain using a 10-power magnifying glass every 10 flight hours. The inspection intervals for a chain were reduced because of several field reports of cracked and broken links. We have also reviewed Bell ASB 204-79-7, dated August 21, 1979, which specifies the installation of a damper kit. A field evaluation has shown considerable improvement in the reliability of the chain when a damper kit is installed.

Further, we have reviewed Bell ASB No. 205-78-5, dated May 16, 1978, for Model 205A-1 helicopters, serial number 30001 through 30228, which specifies removing the tail rotor chain and cable control system and installing a push-pull control system kit, P/N 205-704-057-001 or 205-704-057-101. The tail rotor push-pull control system is installed in accordance with Service Instructions (SI) No. 205-38, "changed" March 28, 1990, for an improved tail rotor hub and blade assembly kit, P/N 205-704-040-001 and 205-704-040-003, and SI No. 205-46, revised March 7, 1980, for installing a push/pull anti-torque retrofit kit.

Proposed AD Requirements

The proposed AD would require:

- For Bell Model 205A-1 helicopters, S/N 30001 through 30228, before further flight, replacing the tail rotor chain and cable control system with an airworthy tail rotor push-pull control system by installing an improved tail rotor hub and blade assembly kit, P/N 205-704-040-001 or 205-704-040-003, and then installing a push/pull anti-torque retrofit kit, P/N 205-704-057-001 or 205-704-057-101.

- For Bell Model 204B helicopters, visually inspecting chains, P/N 204-001-739-003 and -105, at 10-hour TIS intervals using a 10-power or higher magnifying glass and a light; revising the inspection procedures; installing a damper kit; and revising the maintenance manual or ICAs to include the inspection intervals.

Costs of Compliance

We estimate that this proposed AD would affect 13 Model 204B and 52 Model 205A-1 helicopters of U.S. registry and that operators may incur the following costs:

- Visual inspection of the link segments in a chain on a Model 204B helicopter will require .25 work hour for each inspection, 60 per year, at an average labor rate of $85 per work hour for a cost per helicopter of $1,275 and fleet cost of $16,575;

- Replacement of a chain having a cracked or broken link or segment on a Model 204B helicopter would require .5 work hour and a parts cost of $4,922, for a cost per helicopter of $4,965 and a total cost of $9,930 (assuming 2 would be replaced);

- Installation of a damper kit on a Model 204B helicopter would require 3 work hours and a parts cost of $14,925, for a cost per helicopter of $15,180 and a total cost of $30,360 (assuming 2 would be installed); and

- Installation of a tail rotor push-pull control system on an affected Model 205A-1 helicopter would require 225 work hours and a parts cost of $152,214, for a cost per helicopter of $171,339.

Therefore, we estimate the total cost impact of the proposed AD on U.S. operators to be $228,204.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed, I certify this proposed regulation:

1. Is not a "significant regulatory action" under Executive Order 12866;

2. Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);

3. Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction; and

4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared an economic evaluation of the estimated costs to comply with this proposed AD and placed it in the AD docket.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by Reference, Safety.

The Proposed Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by removing Amendment 39-3569 (44 FR 55555, September 27, 1979), which amended Amendment 39-2640 (41 FR 23939; June 14, 1976), and by adding the following new airworthiness directive (AD):

BELL HELICOPTER TEXTRON (BELL): Docket No. FAA-2013-0379; Directorate Identifier 2009-SW-26-AD.

(a) Applicability.

This AD applies to Model 204B helicopters with a tail rotor pitch control chain (chain), part number (P/N) 204-001-739-003 or -105, installed, and Model 205A-1 helicopters with a serial number (S/N) 30001 through 30228, certificated in any category.

(b) Unsafe Condition.

This AD defines the unsafe condition as a crack in a chain, which can grow quickly because of oscillatory loads and lead to premature failure of the chain, loss of the tail rotor blade pitch control, and subsequent loss of control of the helicopter.

(c) Affected ADs.

This AD supersedes AD 76-12-07, Amendment 39-2640 (41 FR 23939, June 14, 1976) as revised by Amendment 39-3569 (44 FR 55555, September 27, 1979).

(d) Compliance.

You are responsible for performing each action required by this AD within the specified compliance time unless it has already been accomplished prior to that time.

(e) Required Actions.

(1) For Model 205A-1 helicopters, before further flight, replace the tail rotor chain and cable control system with an airworthy tail rotor push-pull control system by installing an improved tail rotor hub and blade assembly kit, P/N 205-704-040-001 or 205-704-040-103, and then installing a push/pull anti-torque retrofit kit, P/N 205-704-057-001 or 205-704-057-101.

(2) For Model 204B helicopters:

(i) Within 10 hours time-in-service (TIS) and thereafter at intervals not to exceed 10 hours TIS, using a 10-power or higher magnifying glass and a light, visually inspect

each of the link segments in the chain for a crack. Also, slowly operate the cockpit anti-torque control pedals during the inspection so that the entire surface area of the chain in contact with the control quill sprocket (sprocket) is visibly accessible and can be inspected. Pay particular attention to the portion of the chain that travels over the sprocket and extends 6 inches to each side of the sprocket.

(A) If there is no cracked or broken link segment, lubricate the chain with a light preservative oil (C-125) or wipe with a cloth dampened in lubricating oil (C-010).

(B) If there is a cracked or broken link segment, before further flight, replace the chain with an airworthy chain.

(ii) Within 50 hours TIS, install a tail rotor cable and chain damper kit, P/N 204-706-130-101, as depicted in Figures 1 through 3, and by following the Accomplishment Instructions, paragraphs 2. through 9., of Bell Alert Service Bulletin (ASB) No. 204-79-7, dated August 21, 1979.

(f) Alternative Methods of Compliance (AMOC).

(1) The Manager, Rotorcraft Certification Office, FAA, may approve AMOCs for this AD. Send your proposal to Michael Kohner, ASW-170, Aviation Safety Engineer, Rotorcraft Directorate, 2601 Meacham Blvd., Fort Worth, Texas 76137, telephone (817) 222-5170, fax (817) 222-5783, email mike.kohner @faa.gov.

(2) For operations conducted under 14 CFR part 119 operating certificate or under 14 CFR part 91, subpart K, we suggest that you notify your principal inspector, or lacking a principal inspector, the manager of the local flight standards district office or certificate holding district office before operating any aircraft complying with this AD through an AMOC.

(g) Additional Information.

(1) Bell Alert Service Bulletin (ASB) No. 204-75-4, dated December 16, 1975, and Bell ASB No. 205-78-5, dated May 16, 1978, which are not incorporated by reference, contain additional information about the subject of this AD. For this service information, contact Bell Helicopter Textron, Inc., P.O. Box 482, Fort Worth, TX 76101, telephone (817) 280-3391, fax (817) 280-6466, or at http://www.bellcustomer.com/files/. You may review a copy of the referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137.

(2) The subject of this AD is addressed in Transport Canada AD CF-1990-06R1, issued January 7, 2008.

(h) Subject. The Joint Aircraft System Component (JASC) Code is 6720: Tail Rotor Control System.

Issued in Fort Worth, Texas, on April 18, 2013.

Lance T. Gant,

Acting Manager, Rotorcraft Directorate,
Aircraft Certification Service.

[FR Doc. 2013-09764 Filed 04/24/2013 at 8:45 am; Publication Date: 04/25/2013]